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# Elite Adolescent Athletes' Achievement Goals and Beliefs Concerning Success in Tennis

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The present study examined the perceived causes of success among elite adolescent tennis players and investigated the function of gender in the interdependence of goal orientation and beliefs concerning tennis achievement. Male and female adolescents ($N$ = 121) completed the Task and Ego Orientation in Sport Questionnaire (TEOSQ) specific to tennis and a questionnaire tapping beliefs about success in this sport. Factor analyses revealed two conceptually coherent personal goal-belief dimensions for the females. The first was comprised of ego orientation and the beliefs that ability and maintaining a positive impression were the primary causes of success. The second consisted of a task orientation coupled with the belief that effort and a de-emphasis on external factors and deceptive tactics would lead to tennis accomplishment. In the case of males, an ego goal-belief dimension emerged. The motivational implications of assuming these differing goal-beliefs in youth sport is discussed.

Key words: goal orientations, attributions, motivation

Participation in youth sport is pervasive, is highly regarded, and is based on widely held assumptions concerning the value of competition. It is assumed that competitive athletics develop character, enhance moral development, and foster a positive motivational perspective on achievement that transfers to other pursuits later in life (Coakley, 1990; Greendorfer, 1987; Humphries, 1991; Kohn, 1986). Research, however, has failed to confirm these assumptions. An overemphasis on competition in youth sport has been linked to a negative approach to achievement, specifically, a decrease in learning and motivation, an increase in maladaptive behaviors and emotions, and lower levels of moral reasoning (Bredemeier, 1985; Coakley, 1990; Greendorfer, 1987; Vealey & Campbell, 1988). A majority of the research in this area has centered on the characteristics of the competitive environment and their effect on the behavioral patterns, attitudes, and affective reactions of sport participants (Scanlan & Lewthwaite, 1986;

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Simon & Martens, 1979). This literature suggests that competitive youth sport is not inherently good or bad; rather, it is a question of how this activity is structured and interpreted.

Recent efforts using a goal perspective analysis of motivation have attempted to delineate variations in responses to competitive sport by investigating individual differences in how people define success and judge their competence (Duda, 1992, 1993). An intentional framework of behavior provides the foundation for goal perspective theory. This approach suggests that "behavior is predicted by assuming that individuals are goal directed and that their behavior is a rational or economic attempt to gain their goals" (Nicholls, 1984b, p. 40). Two independent goal perspectives appear to be salient in achievement situations, namely task orientation and ego orientation. If one is predominantly task oriented, perceived ability tends to be self-referenced skill mastery, improvement, and learning provide the basis for subjective success in this case. On the other hand, if one is primarily ego oriented, perceptions of ability tend to be based on normative or peer comparison. When ego orientation prevails, success is experienced by outdoing others or performing equally well with less effort in a competitive activity (Nicholls, 1984a, 1984b).

Research has shown that these two goal perspectives are prevalent among sport participants (for a review of this literature, see Duda, 1992, 1993). In the athletic context, goal perspectives correspond to perceptions concerning the wider purposes of sport involvement (Duda, 1989), attitudes about sportsmanship and aggression (Duda, Olson, & Templin, 1991; Stephens, Bredemeier, Shields, & Ryan, 1992), and motives concerning the reasons for sport participation (White & Duda, in press).

Recent factor analytic studies have focused on the relationship between individual differences in goal orientation and personal beliefs about the causes of success in the athletic domain (Duda, Fox, Biddle, & Armstrong, 1992; Duda & Nicholls, 1992; Duda & White, 1992). Specifically, ego orientation has been linked to the beliefs that external factors (such as equipment or luck), taking an illegal advantage, and superior athletic ability are causes of success in sport. Conversely, a task-oriented individual is more likely to believe that success in sport stems from hard work, effort, and collaboration with peers. Only in the case of elite college-aged performers has task orientation been associated with the view that one also needs talent to be successful in the athletic domain (Duda & White, 1992).

These goal-belief dimensions are assumed to reflect personal theories of athletic achievement (i.e., personal goals) and ideas about what it takes to make it through in the athletic system (i.e., views about the determinants of success). The motivational ramifications of subscribing to diverse theories of achievement have begun to be investigated. For example, Duda et al. (1992) found that the adoption of a task goal-belief theory of success was positively related to sport enjoyment and interest. In contrast, an ego goal-belief theory of success corresponded to greater reported boredom in sport.

The purpose of this study was threefold. First, the validity and reliability of the Beliefs About the Causes of Success Questionnaire in the case of young elite tennis players was examined. Second, the interdependence between goal orientation and beliefs concerning success was determined to illuminate possible differences in personal "theories" of sport achievement among young talented tennis players. Third, possible gender differences with respect to the emphasis placed on and associations between goals and beliefs were investigated.

## Method

### *Subjects*

Subjects in this study were 80 male (age $M$ = 12.68 years, $SD$ = 1.90) and 41 female (age $M$ = 12.77 years, $SD$ = 2.45) elite adolescent tennis players. All subjects were participants in a summer junior tennis-skill-development camp in the Midwest. All subjects paid a fee to attend the day camp, which lasted 8 weeks. A majority of the adolescents attended for at least 6 weeks. The adolescents had a mean of 4.51 years of tennis experience (range = 2–11 years). More specifically, males had been playing tennis for an average of 4.47 years (range = 2–11 years), and the females averaged 4.59 years of tennis experience (range = 2–10 years).

### *Procedure*

Prior to data collection, each subject consented to participate in the study. During scheduled rest breaks, the primary investigator administered a multisection inventory to groups of 15–25 players. The inventory was completed anonymously, and the players were assured that only the researchers would see their responses. Assistance was given to those who had difficulty understanding the questions. The players were encouraged to answer as honestly as possible.

### *Measures*

The subjects' proneness to task or ego involvement in the athletic domain was assessed with the Task and Ego Orientation in Sport Questionnaire (TEOSQ; Duda, 1989, 1992; Duda et al., 1991). The TEOSQ requested the subjects to think about when they felt most successful in tennis and to respond to 13 items designed to assess task-involved criteria (e.g., "I feel most successful in tennis when something I learn makes me want to practice more") and ego-involved criteria (e.g., "I feel most successful in tennis when others mess up, and I don't") for defining success. The subjects' responses were indicated on a 5-point Likert-type scale (1 = *strongly disagree*; 5 = *strongly agree*). Mean scale scores were calculated for the Task and Ego Orientation scales of the TEOSQ.

To assess the subjects' views concerning the determinants of success in tennis, the 21-item Beliefs About the Causes of Success in Sport was administered (Duda & Nicholls, 1992; Duda & White, 1992; Nicholls, Cheung, Lauer, & Patashnick, 1989; Nicholls, Patashnick, & Nolen, 1985). Each response was reported on a 5-point Likert-type scale (1 = *strongly disagree*; 5 = *strongly agree*). The general stem to each item was "Kids who play tennis succeed if they. . . ." Examples of items included " . . . work really hard," " . . . are born natural athletes," and " . . . pretend to like the coach."

## Results

### *Validity and Reliability of the Measures*

Construct and predictive validity of the TEOSQ has been supported in previous studies of youth sport participants and nonparticipants (Duda, 1989; Duda, 1993; Hom, Duda, & Miller, 1993; Stephens & Bredemeier, 1992). The

internal reliability of the TEOSQ subscales among the present sample of elite adolescent sport participants was calculated using Cronbach's (1951) coefficient alpha. Both the Task and Ego Orientation subscales demonstrated acceptable internal consistency, Cronbach's alpha = .78 and .81, respectively.

To date, the belief structure of elite adolescent athletes has not been examined. Consequently, principal-components factor analyses with varimax and oblimin rotations were conducted on the youth tennis players' responses to the 21-item Beliefs About the Causes of Success Questionnaire. Factors were selected on the criterion eigenvalue of 1.0 or greater; items defining a factor were those with structure coefficients greater than .45. Due to a low factor loading or cross-loading on two or more factors, 5 items were deleted from the original questionnaire. The two rotated factor structures produced similar solutions. Due to the observed intercorrelations between the beliefs factors, the oblimin factor loadings are presented (see Table 1).

Four dimensions of beliefs about the causes of success emerged, accounting for 65.2% of the response variance. In general, these belief factors are aligned with what has been discerned in previous work on athletes (Duda et al., 1992; Duda & White, 1992; White & Duda, 1993). Beliefs such as being a natural athlete or being better than others in tough competition were causes of success comprised Factor 1, Ability. Factor 2 consisted primarily of items reflecting the beliefs that having the best racquet, being lucky, and knowing how to cheat were causes of success; this dimension was labeled External Factors/Deception. The belief that success in tennis is caused by behaviors such as working hard and trying to learn new skills comprised Factor 3, Effort. Factor 4, Positive Impression, consisted of the beliefs that sticking to skills one is good at, pretending to like the coach, and knowing how to impress the coach would lead to success in tennis. Mean scale scores were computed for these four factors.

The internal reliability of the four beliefs about the causes of success in tennis was computed using Cronbach's (1951) alpha. The External Factors/Deception subscale demonstrated the lowest internal consistency, Cronbach's alpha = .60. The Effort subscale was found to be the most reliable, Cronbach's alpha = .76, and the Ability and Positive Impression subscales exhibited adequate internal consistency, Cronbach's alpha = .69 in each case.

### *Means and Standard Deviations*

The observed, unweighted means and standard deviations for each of the measures are presented in Table 2. The results indicated that elite junior tennis players focused primarily on task-oriented as opposed to ego-oriented goals. Additionally, the adolescents perceived that working hard and being competent were the most salient avenues to success in tennis.

Multivariate analyses of variance (MANOVAs) were conducted to determine whether boys and girls significantly differed in their goals and their beliefs concerning what leads to success in tennis. It was found that gender differences existed with respect to goal orientation, Wilks's lambda = .92, $F(2, 117) = 5.27$, $p < .006$. Follow-up univariate $F$ values and standardized discriminant coefficients were examined to determine which dependent variables contributed most to differences between males and females. These coefficients suggested that task orientation (.94) contributed most substantively to the relationship followed by ego orientation (−.40). Specifically, univariate analyses indicated that girls were

**Table 1 — Factor Analysis (Oblimin Rotation) of the Beliefs About the Causes of Success Questionnaire**

| Kids who play tennis succeed if they . . . | Ability | External factors/deception | Effort | Positive impression |
|---|---|---|---|---|
| are better than others in tough competition. | **.78** | −.08 | .20 | −.13 |
| always try to beat others. | **.73** | −.05 | .25 | −.38 |
| are better athletes than the others. | **.72** | −.21 | .22 | −.27 |
| are born natural athletes. | **.71** | .02 | .18 | −.30 |
| have the best racquets. | −.05 | **−.90** | −.14 | −.09 |
| are lucky. | .13 | **−.88** | −.06 | −.33 |
| know how to cheat. | .20 | **−.88** | −.07 | −.37 |
| know how to make themselves look better than they are. | .12 | **−.82** | −.18 | −.08 |
| always do their best. | .19 | .15 | **.84** | −.01 |
| work really hard. | .32 | .18 | **.82** | −.03 |
| help each other learn. | .20 | .21 | **.75** | −.12 |
| like to learn new skills. | .29 | .03 | **.74** | −.34 |
| try things they can't do. | .13 | −.02 | **.70** | −.18 |
| pretend to like the coach. | .37 | −.26 | .10 | **−.90** |
| know how to impress the coach. | .32 | −.36 | .11 | **−.84** |
| stick to skills they are really good at. | .20 | −.04 | .17 | **−.63** |
| Eigenvalue | 4.00 | 3.58 | 1.64 | 1.20 |
| Percentage of variance | 25.00 | 22.40 | 10.30 | 7.50 |
| Correlation among factors | | | | |
| Factor 1 | — | | | |
| Factor 2 | −.09 | — | | |
| Factor 3 | .26 | .13 | — | |
| Factor 4 | −.31 | .21 | −.17 | — |

**Table 2**

**Means and Standard Deviations for the TEOSQ and Beliefs About the Causes of Success**

| | Males | | Females | |
|---|---|---|---|---|
| | Mean | *SD* | Mean | *SD* |
| Goal orientation | | | | |
| Task | 4.00[a] | .53 | 4.31[a] | .57 |
| Ego | 2.97 | .86 | 2.72 | .81 |
| Beliefs about the causes of success | | | | |
| Ability | 3.25[b] | .76 | 2.95[b] | .79 |
| External factors/deception | 1.92[c] | .71 | 1.59[c] | .46 |
| Effort | 4.05[d] | .64 | 4.33[d] | .67 |
| Positive impression | 2.52[e] | .94 | 2.17[e] | .67 |

*Note.* Similar superscripts indicate significant ($p < .05$) gender differences.

more task oriented than their male counterparts, $F(1, 118) = 8.80$, $p < .004$ (see Table 2).

Significant gender differences emerged concerning beliefs about the causes of success, Wilks's lambda = .88, $F(4, 111) = 3.48$, $p < .01$. An examination of the standardized discriminant coefficients suggested that effort (−.49), external factors/deception (.42), ability (.40), and having a positive impression (.31) all moderately impacted group differences. Follow-up univariate analyses of variance revealed that, although both males and females were apt to endorse effort as a cause of success, females felt more strongly about this belief, $F(1, 114) = 5.82$, $p < .02$. The factor means suggest that both males and females felt that creating a positive impression and relying on external factors or deception were not major determinants of success; however, females reported significantly lower means in both instances: Positive Impression, $F(1, 114) = 5.00$, $p < .03$; External Factors/Deception, $F(1, 114) = 7.05$, $p < .009$. Lastly, females were less likely to believe that ability, $F(1, 114) = 3.83$, $p < .05$, was a determinant of achievement than were males. These results are presented in Table 2. Due to these observed gender differences, the remaining analyses were conducted for males and females separately.

### *Interdependencies Between Goals and Beliefs*

In order to determine the univariate relationship between goals and beliefs regarding the causes of success within each gender, simple correlations were computed (see Table 3). Task orientation was positively related to the belief that effort was a cause of success for females, and ego orientation corresponded to the beliefs that ability and creating a positive impression would lead to success in tennis for the males. Due to the low-to-moderate range of the reported correlations, caution should be employed in interpreting the strength of the above relationships.

Congruent with the analyses employed in previous studies of goals and beliefs

**Table 3**

**Correlations Between the TEOSQ and Beliefs About the Causes of Success**

| | Task orientation | | Ego orientation | |
|---|---|---|---|---|
| | Males | Females | Males | Females |
| Ability | –.08 | .13 | .35** | .12 |
| External factors/deception | –.08 | –.28 | .11 | –.03 |
| Effort | .17 | .34* | .05 | –.02 |
| Positive impression | .00 | .01 | .22* | .09 |

*$p < .05$. **$p < .001$

**Table 4**

**Factor Analysis (Oblimin Rotation) of the TEOSQ and Beliefs About the Causes of Success Subscales for Female Subjects**

| Scales | Task dimension | Ego dimension |
|---|---|---|
| External/deception beliefs | **–.80** | .03 |
| Effort beliefs | **.74** | –.13 |
| Task orientation | **.66** | .28 |
| Positive impression beliefs | –.19 | **.71** |
| Ego orientation | .01 | **.68** |
| Ability beliefs | .25 | **.63** |
| Eigenvalue | 1.75 | 1.44 |
| Percentage of variance | 29.30 | 24.00 |
| Correlation among factors | | |
| Factor 1 | — | |
| Factor 2 | .05 | — |

(Duda et al., 1992; Duda & Nicholls, 1992; Duda & White, 1992; Nicholls et al., 1989; Nicholls, Coff, Wood, Yackel, & Patashnick, 1990), principal-component factor analyses (varimax and oblimin rotations) were conducted on the subscale scores of the TEOSQ and Beliefs About the Causes of Success Questionnaires. The results for females and males can be seen in Tables 4 and 5.

For the female tennis players, two factors emerged with an eigenvalue greater than 1.0 (Table 4). A task theory of achievement was reflected in Factor 1 and was comprised of a focus on task-oriented goals, the belief that effort leads to success, and the view that external factors/deception are not determinants of being successful in tennis. An ego theory of achievement was revealed in the second factor and consisted of an emphasis on ego-oriented goals and the beliefs that possessing high ability and flattery lead to success.

**Table 5**

**Factor Analysis (Varimax Rotation) of the TEOSQ and Beliefs About the Causes of Success Subscales for Male Subjects**

| Scales | Ego dimension | External dimension |
|---|---|---|
| Ego orientation | **.76** | −.01 |
| Ability beliefs | **.74** | .02 |
| Positive impression beliefs. | **.56** | .36 |
| External/deception beliefs | .17 | **.80** |
| Effort beliefs | .25 | **−.79** |
| Task orientation | −.14 | −.24 |
| Eigenvalue | 1.67 | 1.29 |
| Percentage of variance | 27.90 | 21.50 |

The results of the factor analysis for the males are presented in Table 5. Factor 1, Ego Dimension, contained an emphasis on ego-oriented goals and the beliefs that possessing superior athletic ability and being able to impress others lead to success. Factor 2, External Causes, was comprised of a de-emphasis on exerted effort and the belief that external factors/deception are salient antecedents to achievement in tennis. In the case of the present young male tennis players, task orientation did not load on either factor.

## Discussion

The present study was grounded in a social-cognitive-motivational framework. This approach suggests that cognitions and attitudes are intentional and logically aligned with an individual's goal orientation. Specifically, a goal perspective analysis was used to investigate the relationship of young tennis players' evaluations of their competence and definitions of success to their views concerning what it takes to be a successful tennis player. Similar to previous research, it was found that young elite tennis players tend to be primarily task oriented in sport (Duda, 1989, 1992). Furthermore, young female tennis players possess a stronger task orientation than their male counterparts.

Support for the validity and reliability of the assessment of beliefs about the causes of success in tennis was also established in the present study. Given the low internal consistency of the External Factors/Deception, Ability, and Positive Impression subscales, however, further testing of the psychometric properties of this measure is warranted. These marginal reliabilities may have caused an alteration of the observed relationship between those beliefs measures and goal orientations (Epstein & O'Brien, 1985). When employing the Beliefs About the Causes of Success Questionnaire in future work with young individuals, more attention should be given to item length and clarity.

Elite adolescent tennis players tended to ascribe to the belief that effort played a key role in causing success in tennis. Females held this belief more strongly than males. Additionally, neither males nor females believed that external

factors/deception were predominant causes of success. The male athletes, however, were more inclined to endorse this cause than were the female athletes. Males also emphasized the beliefs that creating a positive impression with the coach and being competent in tennis were causes of success to a greater extent than did the female tennis players.

Insight into what young male and female tennis players perceive as determinants of success in their sport allows us to better understand how young athletes view the sporting "system." Consistent with previous work with athletes in sports other than tennis (e.g., Duda & Nicholls, 1992; Duda & White, 1992), success was perceived to stem from how able one was or how hard one tries and from external or deceptive factors such as knowing how to cheat, having the best equipment, and being lucky. Interestingly, young tennis players also tended to perceive that creating a positive impression with the coach (e.g., by choosing tasks that guarantee success or by pretending to like the coach), was a tenable avenue to success. This view is somewhat understandable given the nature of tennis instruction. In youth tennis, there is often a disproportionate ratio of students to instructors. Top-level instructors typically spend little time in contact with individual students at junior-development sport camps. In order to be recognized and to gain attention from the top instructors, students must "stand out" in some manner. Knowing how to impress the coach or making sure that one only does what one is skilled at might be perceived as means to this end for some young tennis players.

According to Nicholls (1989), the interrelationships between goal orientations and beliefs concerning the causes of success lay the foundation for individual differences in personal theories of success. Previous sport research has found conceptually coherent associations between goals and beliefs (Duda et al., 1992; Duda & Nicholls, 1992; Duda & White, 1992; White & Duda, 1993).

The present study revealed that in the case of young female tennis players, two distinct theories of tennis achievement exist. Paralleling past work in both sport and school, an ego theory of achievement emerged. In this instance, young elite female athletes whose sense of competence was dependent on beating others tended to believe that possessing high tennis ability and being able to create a positive impression with one's coach were the primary routes to success in tennis.

Nicholls (1989) suggests that the belief that ability is the major antecedent to accomplishment will result in motivational difficulties among adolescent athletes who doubt their competence. Basing accomplishment on outcome-based criteria is prevalent in youth tennis. Only a select few who win tournaments and are highly ranked receive awards or scholarships. The majority of these young athletes regularly experience some form of objective defeat. For ego-oriented athletes, this is expected to result in instances when they may come to question their ability. Consequently, it is assumed that these athletes would tend to experience less enjoyment, feel more anxiety, exert less effort, and display less persistence at playing tennis than would task-oriented athletes who hold a different belief system.

A task-oriented theory of achievement was also found for female tennis players. Specifically, this constellation of beliefs concerning advancement in tennis included a mastery/learning-based goal focus, an emphasis on exerted effort as a cause of achievement, and a de-emphasis of the view that external factors or deceptive tactics lead to success in tennis. In the present findings, the

observed task-oriented theory of achievement did not include the belief that ability is also a requisite for tennis success, as has been reported with older elite athletes (Duda & White, 1992). It appears that greater cognitive maturity and/or competitive experience is necessary before a talented, task-oriented athlete believes that both ability and hard work lead to success.

The behaviors and beliefs aligned with the adoption of a task perspective on tennis accomplishment are compatible with those positive qualities assumed to be associated with competitive athletics (e.g., character development, playing within the written and unwritten rules of the game, and enhancing one's achievement strivings; Coakley, 1990; Greendorfer, 1987; Humphries, 1991; Kohn, 1986). The results indicate that tennis players who judge their competence and define success with respect to personal mastery tend to view tennis as an arena in which working hard, staying within the rules, and relying on one's own resources and efforts will lead to success. According to Nicholls (1989), adoption of a task theory of success should correspond to enhanced motivation and desirable long-term achievement patterns in youth sport.

Interestingly, in contrast to what has been reported in previous sport research examining gender differences in goal-belief dimensions (Duda et al., 1992), the goal-belief patterns observed for young male tennis players were distinct from the findings that emerged for the females. Similar to the female athletes, an ego-oriented theory of achievement was revealed among the males in this study. A second externally focused perspective on achievement was found, however, that included the beliefs that external factors, such as being lucky, having the best equipment, or utilizing deceptive tactics are determinants of sport achievement, whereas hard work is not an antecedent to success. Neither goal orientation loaded significantly on this dimension.

Among this sample of elite adolescent male athletes, a task-oriented conception of ability was not systematically related to a particular belief structure. In essence, the results suggest that the subjects did not possess a task theory of tennis success. Given that the present male tennis players were predominantly task oriented (although less so than the females), these results are most interesting. Possibly the belief structure of these young males is still developing. Or, it might be the case that the ego-involved context of elite youth tennis, particularly with respect to males, has disrupted the conceptually logical belief system typically held by task-oriented athletes.

Drawing from previous work in the athletic and academic domains (Duda & Nicholls, 1992; Duda et al., 1992; Nicholls, et al., 1985; Nicholls et al., 1989; Nicholls et al., 1990), another possibility is that the belief system reflected in Factor 2 for males is linked to a goal perspective not examined in the present work (e.g., work avoidance). When adopting this goal perspective, young tennis players' focuses would be on "goofing off" rather than mastering the task or showing that they are better than others. Such young athletes might be expected to not value effort. Gaining success through not trying hard would be the primary component of these individuals' belief systems concerning success. Obviously, such a belief structure would not provide the psychological foundation for investment in tennis over time.

In general, the present findings suggest that young elite athletes' goal orientations are logical and rational expressions of their beliefs about the causes of success in tennis. Based on goal perspective theory and related work (Nicholls,

1989), the observed task theory of success in tennis should be more conducive to maximal motivation in young elite tennis players.

Future investigations should specifically examine the short- and long-term motivational consequences of variations in personal theories of athletic achievement. Moreover, this area of inquiry would benefit from further analysis regarding the social-psychological mechanisms that influence the reported gender differences in goals and beliefs. Linking male and females' goal-belief systems with their early socialization experiences and current coach–athlete interactions would be most interesting. Additionally, subsequent research needs to determine the goal-belief structures and the motivation-related correlates among elite young athletes as a function of the perceived motivational climate. Drawing from recent sport research (Seifriz, Duda, & Chi, 1992), the promotion of a task-involving environment in junior tennis should foster the development of a task theory of athletic success.

## References


Bredemeier, B.J. (1985). Moral reasoning and the perceived legitimation of intentionally injurious sports acts. *Journal of Sport Psychology*, **7**, 110-124.

Coakley, J. (1990). *Sport in society: Issues and controversies*. St. Louis: Times Mirror/Mosby.

Cronbach, L.J. (1951). Coefficient alpha and the internal structure of tests. *Psychometrika*, **16**, 297-334.

Duda, J.L. (1989). The relationship between task and ego orientation and the perceived purpose of sport among male and female high school athletes. *Journal of Sport & Exercise Psychology*, **11**, 318-325.

Duda, J.L. (1992). Motivation in sport settings: A goal perspective analysis. In G.C. Roberts (Ed.), *Motivation in sport and exercise* (pp. 57-92). Champaign, IL: Human Kinetics.

Duda, J.L. (1993). Goals: A social cognitive approach to the study of achievement motivation in sport. In R.N. Singer, M. Murphy, & L.K. Tennant (Eds.), *Handbook of research on sport psychology* (pp. 421-436). St. Louis: Macmillan.

Duda, J.L., Fox, K.R., Biddle, S.J.H., & Armstrong, N. (1992). Children's achievement goals and beliefs about success in sport. *British Journal of Educational Psychology*, **62**, 313-323.

Duda, J.L., & Nicholls, J.G. (1992). Dimensions of achievement motivation in schoolwork and sport. *Journal of Educational Psychology*, **84**, 1-10.

Duda, J.L., Olson, L., & Templin, T. (1991). The relationship of task and ego orientation to sportsmanship attitudes and perceived legitimacy of aggressive acts. *Research Quarterly for Exercise and Sport*, **62**, 79-87.

Duda, J.L., & White, S.A. (1992). Goals and beliefs about success among elite skiers. *The Sport Psychologist*, **6**, 334-343.

Epstein, S., & O'Brien, E.J. (1985). The person-situation debate in historical and current perspective. *Psychological Bulletin*, **98**, 513-538.

Greendorfer, S. (1987). Psycho-social correlates of organized physical activity. *Journal of Physical Education, Recreation and Dance*, **58**(7), 59-62.

Hom, H., Jr., Duda, J.L., & Miller, A. (1993). Correlates of goal orientations among young athletes. *Pediatric Exercise Science*, **5**, 168-176.

Humphries, C. (1991). Opinions of participants and nonparticipants toward youth sport. *Physical Educator*, **48**, 44-48.

Kohn, A. (1986). *The case against competition*. Boston: Houghton Mifflin.

Nicholls, J.G. (1984a). Achievement motivation: Conceptions of ability, subjective experience, task choice, and performance. *Psychological Review*, **91**, 328-346.

Nicholls, J.G. (1984b). Conceptions of ability and achievement motivation. In R. Ames & C. Ames (Eds.), *Research on motivation in education: Vol. 1. Student motivation*. (pp. 39-73). New York: Academic Press.

Nicholls, J.G. (1989). *The competitive ethos and democratic education*. Cambridge, MA: Harvard University Press.

Nicholls, J.G., Cheung, P.C., Lauer, J., & Patashnick, M. (1989). Individual differences in academic motivation: Perceived ability, goals, beliefs, and values. *Individual Differences*, **1**, 63-84.

Nicholls, J.G., Coff, P., Wood, T., Yackel, E., & Patashnick, M. (1990). Assessing students' theories of success in mathematics: Individual and classroom differences. *Journal for Research in Mathematics*, **21**, 109-122.

Nicholls, J.G., Patashnick, M., & Nolen, S.B. (1985). Adolescents' theories of education. *Journal of Educational Psychology*, **77**, 683-692.

Scanlan, T.K., & Lewthwaite, R. (1986). Social psychological aspects of competition for male youth sport participants: IV. Predictors of enjoyment. *Journal of Sport Psychology*, **8**, 25-35.

Seifriz, J.J., Duda, J.L., & Chi, L. (1992). The relationship of perceived motivational climate to intrinsic motivation and beliefs about success in basketball. *Journal of Sport & Exercise Psychology*, **14**, 375-391.

Simon, J.A., & Martens, R. (1979). Children's anxiety in sport and nonsport evaluative activities. *Journal of Sport Psychology*, **1**, 160-169.

Stephens, D.E., & Bredemeier, B.J.L. (1992, June). *A tale of two theories: The relationship between Eccles' expectancy-value and Nicholls' goal orientation theories of achievement motivation*. Paper presented at the meeting of the North American Society for the Psychology of Sport and Physical Activity, Pittsburgh, PA.

Stephens, D.E., Bredemeier, B., Shields, D., & Ryan, M.K. (1992, May). *Relation of motivational and leadership variables to temptation to play unfairly*. Paper presented at the International Conference on Physical Activity, Fitness, and Health, Toronto, Canada.

Vealey, R.S., & Campbell, J.C. (1988). Achievement goals of adolescent figure skaters: Impact on self-confidence, anxiety, and performance. *Journal of Adolescent Research*, **3**, 227-243.

White, S.A., & Duda, J.L. (1993). Dimensions of goals and beliefs among adolescent athletes with physical disabilities. *Adapted Physical Activity Quarterly*, **10**, 125-136.

White, S.A., & Duda, J.L. (in press). The relationship of gender, level of sport involvement, and participation motivation to task and ego orientation. *International Journal of Sport Psychology*.

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